



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/284,152

06/03/1999

MARK AARON EMALFARB

214275-30003

1956

88670

7590

02/03/2010

LOEB & LOEB LLP

321 N. CLARK STREET, SUITE 2300

CHICAGO, IL 60654

EXAMINER

FRONDA, CHRISTIAN L

ART UNIT

PAPER NUMBER

1652

MAIL DATE

DELIVERY MODE

02/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/284,152	Applicant(s) EMALFARB ET AL.	
	Examiner CHRISTIAN L. FRONDA	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-63 and 67-112 is/are pending in the application.
- 4a) Of the above claim(s) 67-79,84-108,110 and 111 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 is/are allowed.
- 6) ☒ Claim(s) 3,6-63,80-83 and 112 is/are rejected.
- 7) ☒ Claim(s) 5 and 109 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/13/09</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1652

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/13/2009 has been entered.
2. Claims 1, 3, 5-63, and 67-112 are pending in this application. Claims 67-79, 84-108, 110, and 111 have previously been withdrawn from consideration as drawn to a non-elected invention.
3. Claims 1, 3, 5-63, 80-83, 109, and 112 are under consideration in this Office Action.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

Art Unit: 1652

made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

According to MPEP 2143:

“Exemplary rationales that may support a conclusion of obviousness include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) “Obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Note that the list of rationales provided is not intended to be an all-inclusive list. Other rationales to support a conclusion of obviousness may be relied upon by Office personnel.”

5. Claims 3, 6-63, 80-83, and 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parslow et al. (US Patent 4,661,289; reference of record) in view of Janeckova et al. (Ceska Mykologie, (1977) Vol. 31, No. 4, pp. 206-213(Abstract); reference of record).

The arguments filed 11/13/2009 have been considered but are not persuasive for reasons of record as further supplemented. As previously stated, Janeckova et al. teach *Chrysosporium lucknowense* isolated from soil; and Bukhtojarov et al. (Biochemistry (Mosc). 2004 May;69(5):542-51 Abstract); reference of record) provide evidence that *Chrysosporium lucknowense* contains cellulolytic enzymes including endoglucanases, cellobiohydrolases, and

Art Unit: 1652

cellulases that have neutral and/or alkaline cellulose activity, specifically EG24 and EG47. As previously stated, according to MPEP 2112:

“The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. “The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness.” *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).”

“[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). >In *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court held that the claimed promoter sequence obtained by sequencing a prior art plasmid that was not previously sequenced was anticipated by the prior art plasmid which necessarily possessed the same DNA sequence as the claimed oligonucleotides. The court stated that “just as the discovery of properties of a known material does not make it novel, the identification and characterization of a prior art material also does not make it novel.”

Thus the claiming of a composition comprising cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity, which is inherently present in the prior art *Chrysosporium lucknowense* taught by Janeckova et al. as evidenced by Bukhtojarov et al. does not necessarily make the claims patentable. Furthermore, the standard techniques for the isolation and purification of cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity from biological sources including *Chrysosporium lucknowense* are well known and developed in the art and within the purview of a person having ordinary skill in the art. Since Parslow et al. teach that compositions comprising fungal cellulases are useful for cleaning and softening natural and synthetic fibers and that neutral/alkaline cellulases have the advantage of better wash performance within a wider pH range, then one of ordinary skill in the art at the time the invention was made would be motivated to search and screen for such cellulases from other biological sources including the prior art *Chrysosporium lucknowense* taught by Janeckova

Art Unit: 1652

et al. as evidenced by Bukhtojarov et al. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Amending the claims to recite that all of the cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity are isolated from *Chrysosporium lucknowense* Garg 27k having accession number VKM F-3500D as recited in claim 1 may aide in overcoming the rejection.

The reference teachings and rejection of record are reproduced below for convenience.

Parslow et al. teach compositions comprising fungal cellulase, surfactants, cationic fabric-softening compound, and builders (see entire US 4,661,289). Parslow et al. further teach that these compositions comprising fungal cellulase are useful for cleaning and softening natural and synthetic fibers (see entire US 4,661,289). Parslow et al. do not teach the claimed composition.

Janeckova et al. teach *Chrysosporium lucknowense* isolated from soil (see Abstract). Bukhtojarov et al. (Biochemistry (Mosc). 2004 May;69(5):542-51 Abstract); reference of record) provide evidence that *Chrysosporium lucknowense* contains cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity, specifically EG24 and EG47(see Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Parslow et al. such that the *Chrysosporium lucknowense* cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity are substituted for or added into the compositions taught by Parslow et al. One of ordinary skill in the art at the time the invention was made would have been motivated to do this because Parslow et al. teach that compositions comprising fungal cellulases are useful for cleaning and softening natural and synthetic fibers and that neutral/alkaline cellulases have the advantage of better wash performance within a wider pH range.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mutate the selected fungus by methods well known in the art such as treatment of fungus with UV irradiation, chemical mutagens such as nitrous acid, and site-directed mutagenesis; and select mutant fungus strains with the desired property such as increased or neutral/alkaline cellulase activity by assaying and screening for mutants having the desired property. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dilute or concentrate the *Chrysosporium lucknowense* cellulolytic enzymes including endoglucanases, cellobiohydrolases, and cellulases that have neutral and/or alkaline cellulose activity to either 964, 191, or 124 units of cellulase activity per gram of dry composition in order to optimize for cleaning and softening natural and synthetic fibers. Thus, the claimed invention was within the ordinary skill in the art to make and use at the time was made, and was as a whole clearly *prima facie* obvious.

Conclusion

6. Claim 1 is allowed.

Art Unit: 1652

7. Claims 5 and 109 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian L Fronda whose telephone number is (571)272-0929. The examiner can normally be reached Monday-Thursday and alternate Fridays between 9:00AM - 5:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571)272-0811. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christian L. Fronda/

Primary Examiner

Art Unit 1652